**IT Applications Unit 3, AOS 1, Online Communities**

1. Complete the following, from pgs, 18-28: **Network hardware and software**

**Networks are classified according to below and we will study the following:**

1. **Network Categories: LAN, WAN**
2. **Network Architecture, client-server; peer-to-peer; internet peer-to-peer; intranet**
3. **Network communication standards**
4. **Network hardware and software**
5. **Transmission media**
6. **Network security**

**Network hardware and software**

**Network Operating systems**

1. Describe the role of the network operating system. The network operating system is software that controls traffic on the network and defines how devices will communicate with each other.
2. What are the typical tasks of network server software? Server software and Client software.
3. What is the role of network client software? A web client allows a user to view pages on the internet and manages the links.
4. List the 3 providers of network operating systems. Windows, Novell, and Apple.

**Web client software**

1. List the typical client software. Web browser, Electronic mail, Videoconferencing, Instant messaging, and Chat rooms.

**Software for setting up websites**

1. Describe the role of http protocol. The role of the http protocol is to standardise the transmitting and receiving of information on the internet.
2. What is the role of web server software? The role of web server software is to provide content using the http protocol.
3. What is the role of a proxy server? The role of a proxy server is to be the intermediate between two servers when one server is requesting resources from another.
   1. What are the advantages of using a proxy server?

To keep machines behind it anonymous, (security), To speed up access to resources (using caching). Web proxies are commonly used to cache web pages from a web server. To apply access policy to network services or content, e.g. to block undesired sites. To log / audit usage, i.e. To provide company employee Internet usage reporting. To bypass security/ parental controls. To scan transmitted content for malware before delivery.

1. Describe the role of the following software:
   1. SMTP. SMPT is used on electronic mail servers to handle the sending and receiving of clients emails.
   2. POP3. A POP3 server is used to store messages.
   3. FTP. FTP software enables the uploading and downloading of files between computers on the internet.
   4. Web software applications. Web software applications are programs designed for use on a website and include blogging software, forums and wikis.

**Cross-platform web software**

1. What is meant by a Cross-platform application? List egs. A cross-platform application uses an execution engine and compiler with libraries so that it runs identically on all machines eg. Flash and Java.
2. What is adobe flash? Adobe flash is a software tool that enables website developers to combine interactive content with text, three-dimensional graphics, audio and video.

**Network Hardware**

Describe the characteristics and role of the following network hardware devices:

1. Network interface card. The network interface card or NIC allows for computers to connect to a network be it cabled or wireless.

2. Wireless access point. A wireless access point or WAP connects wireless communication devices to wired or wireless networks.

3. Switches. Switches store the address of every device and are capable of inspecting packets as they are received, determining the source and destination device of each packet, and forwarding them appropriately.

4. Routers. A router is a junction between two networks, and much, much more.

5. Modems. Modems are devices used to transmit data over telephone or cable lines.

For each of the following modem types, in a table indicate the following:

Modem download speed

i) Dial up modem. 56kbps

ii) Digital modems:

* + 1. DSL. from 256 kbps to 8 mbps
    2. ADSL & ADSL 2 +: up to 20Mbps

iii) cable modems: 30Mbps

* 6 How does a digital modem differ from a dial-up modem? Cable modems connect to a local cable TV line, hence the term "cable modem." This allows cable modems to have a continuous connection to the Internet. Therefore, there is no need to dial your ISP every time.